

CLAIMS

1. A splint for a joint between two members of a human or animal body, for example such as the ankle, knee or elbow, composed of at least one rigid and globally concave shell (1, 2) that can be positioned around the joint, resting on the said joint, comprising a chamber (3, 4) made of a flexible plastic material that can be pressurised by any appropriate means, on its inner face, in other words on its concave face, this chamber being placed on the inner face of the shell (1, 2) to supply a supporting cushion between the said shell (1, 2) and the joint, and it covers at least a part of the inner face of the shell (1, 2), the said splint comprising means (6) of holding the said shell (1, 2) in position around the joint, characterised in that the shell (1, 2) is composed of a single element comprising at least one flexible area (7, 8; 12, 13) made from a styrene ethylene butylene styrene (SEBS) block copolymer chemically bonded to the rigid part of the shell (1, 2) to avoid any injury to the oedematous tissue that developed subsequent to a severe or minor sprain of the said joint.

2. Splint according to claim 1, characterised in that the rigid part of the shell (1, 2) is obtained from polypropylene copolymer (PPc).

3. Splint according to claim 1, characterised in that the rigid part of the shell (1, 2) is obtained from polyamide 6 (PA 6).

4. Splint according to any one of the above claims, characterised in that the shell (1, 2) is rigid in its

central part (9, 14) and flexible (7, 8; 12, 13) along each of its longitudinal edges.

5 5. Splint according to any one of claims 1 to 4, characterised in that the shell (1, 2) comprises in its central part (9, 14). A flexible area (10, 15) corresponding to an area of the said shell (1, 2) that rests on a protuberance of the joint,

10 6. Splint according to any one of the above claims, characterised in that the flexible area(s) (7, 8, 10, 12, 13, 15) consist of an area made of flexible material mixed with a rigid synthetic material from which the rigid part (9, 14) of each shell (1, 2) is made.

15 7. Splint according to any one of the above claims, characterised in that it comprises a porous compressible element (18) placed on the inside of each chamber (3, 4), appreciably filling the inner volume of each of the said chambers (3, 4) when these chambers are not pressurised.

20 8. Splint according to claim 7, characterised in that the porous compressible element (18) is composed of foam with slow resilience.

25 9. Splint according to any one of the above claims, characterised in that the means (6) of holding the shell(s) in position around the joint are composed of at least two velvet finish fabric straps (21, 22), in other words a fabric comprising thin loops on its faces, each of the straps (21, 22) having firstly a free end solidarised to the outer face of the shell (1, 2) or a first shell, preferably the inner shell (1) of the splint, in other words the shell placed on the inside of the joint, by an  
30 attachment means, for example such as a rivet (23), the

said fabric straps (21, 22) being capable of cooperating with male attachment means (25) fixed to the outer face of the shell (1, 2) or a second shell called the outer shell (2), and secondly male attachment means (24) positioned on  
5 the outer face of the strap (21, 22) at the fixed end of the shell (1, 2) or the inner shell (1) and capable of cooperating with the thin loops of the inner face of velvet finish fabric straps (21, 22).

10 10. Splint according to claim 9, characterised in that the male attachment means (25) consist of at least two globally rectangular transverse grooves (27) with a straight section, extending perpendicular to the longitudinal edges of the shells (1, 2) in the central rigid part (9, 14) of the shell(s) (1, 2) and for which the  
15 bottom (28) has a rough surface.

11. Splint according to claim 9, characterised in that the male attachment means (25) are positioned in a recess (26) formed on the outer wall of the shell (1, 2) or the outer shell (2) such that the male attachment means (25)  
20 are flush with the surface of the said outer wall.

12. Splint according to any one of claims 9 to 11, characterised in that the male attachment means (24, 25) consist of hooks capable of cooperating with thin loops of the straps (21, 22).

25 13. Splint according to claims 11 and 12, characterised in that the male attachment means (25) of the outer face of the shell (1, 2) or the outer shell (1, 2) of the splint are glued to the bottom of the recesses (26) formed on the outer wall of the shell (1, 2) or the outer  
30 shell (2).

14. Application of the splint according to any one of the above claims for an ankle splint, comprising at least two shells (1, 2) capable of being positioned on each side of the ankle.

5 15. Ankle splint according to claim 14, characterised in that each shell (1, 2) comprises two globally rectangular parallel horizontal slots (29, 30) at its lower end, one (30) placed above the other (29), and into which velvet finish fabric tabs (31, 32) extending on each side  
10 of a base (5) and that can be positioned under the heel can be inserted, each tab (31, 32) being inserted passing under a shell (1, 2), by inserting its free end in the first lower slot (29) from the outside towards the inside of the shell (1, 2), and then by inserting the said free end into  
15 the second upper slot (30) from the inside towards the outside of the said shell (1, 2), before solidarising its free end on the outer wall of the shell immediately above the slots (29, 30).

16. Ankle splint according to claim 15, characterised  
20 in that the free end of at least one tab (31, 32) comprises thin loops (33) capable of cooperating with male attachment means (34) placed on the outer wall of the shells (1, 2) just above the slots (29, 30), on its inner face, in other words the face in contact with the outer wall of the shells  
25 (1, 2).

17. Ankle splint according to claim 16, characterised in that the male attachment means (34) are positioned in a recess (35) formed on the outer wall of the shell (1, 2) such that the attachment means (34) are flush with the  
30 surface of the said outer wall.

18. Ankle splint according to any one of claims 15 to 17, characterised in that the base (5) is generally in the shape of a foot.

19. Ankle splint according to any one of claims 15 to 5 18, characterised in that it comprises a stylised representation (37) of a right or left foot on the upper face of the base (5), in other words the face of the base (5) facing the heel.

20. Ankle splint according to any one of claims 15 to 10 19, characterised in that the free end of one of the tabs (31, 32) is fixed to the outer wall of a shell (1, 2) by means of a rivet (36).

21. Ankle splint according to any one of claims 15 to 20, characterised in that it comprises a velvety fabric 15 "strapping" (38) comprising male attachment means (39) and (40) on one of its faces, placed at the corresponding free ends of the said "strapping" (38), and capable of cooperating with the thin velvety fabric loops on the outer face of the tab (34) and the outer face of the strap (22) 20 or (21), the "strapping" (38) being wound around the shells (1, 2) from their lower ends as far as means (6) to hold the shells (1, 2) in position on each side of the ankle.

22. Method for manufacturing shells (1, 2) of a splint for a joint between two members of the human body, for 25 example such as the ankle, knee or elbow, composed of at least two rigid and globally concave shells (1, 2) that can be positioned on each side of the joint, applying pressure on the said joint, according to any one of claims 1 to 6, characterised in that it consists of inserting a hot liquid 30 synthetic material that solidifies as it cools in a mould

defining the shape of the shell (1, 2) to be obtained, and then inserting a flexible material into the said mould in at least one area of the said mould.

23. Method for manufacturing shells in a splint  
5 according to claim 22, characterised in that the flexible material is inserted into the synthetic material.